

**U.S. Pat. Appl. Ser. No. 10/102,225
Attorney Docket No. 10191/2350
Reply to Office Action of May 4, 2004**

REMARKS

Claims 1 to 16 are now pending and being considered.

It is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

With respect to paragraph three (3) of the Final Office Action, Applicants thank the Examiner for indicating that claims 3 to 9 and 11 to 16 contain allowable subject matter. Since, however, it is believed that claim 1 is allowable (as are its dependent claims 2 and 10), as explained below, the objections as to claims 3 to 9 and 11 to 16 are respectfully traversed. It is therefore respectfully requested that the objections be withdrawn.

With respect to paragraph one (1) of the Final Office Action, claims 1, 2 and 10 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,680,763 to Unland et al. (“Unland”).

As regards the anticipation rejections of the claims, to reject a claim under 35 U.S.C. § 102, the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (See Scripps Clinic & Research Foundation v. Genentech, Inc., 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). As explained herein, it is respectfully submitted that the prior Office Action does not meet this standard, for example, as to all of the features of the claims. Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed subject matter. (See Akzo, N.V. v. U.S.I.T.C., 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; and see Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int’l. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic.

The “Unland” reference refers to a system which includes a controller, in which the integration of the control deviation is limited to a predefinable limit value to avoid severe

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overshoots. As characterized, various limit values are predefinable for stationary and for dynamic operating states. Also, the dynamic limit value may be provided with corrections that are functions of operating parameters (operating characteristic quantities) and with an adaptive correction, and additionally increased by a safety factor. In this context, correction and adaptation of the limit value for the integral-action component are purportedly indicated in Figure 2 and the related text, at the level of the on/off ratio as a control output variable. As characterized, the correction and the adaptation of the limit value for the integral-action component of the controller occurs as a function of operating parameters of the internal combustion engine (TL, H, n in Figure 2), and from these operating parameters, the correction value or adaptation value for the limit value of the controller is determined with a characteristics map (210 or 218).

With regard to the integral component as provided for in the context of claim 1, the Final Office Action refers to characteristics map 126 in Figure 1. The characteristics map 126 in Figure 1 of “Unland”, however, is used to determine the setpoint value PSoll of the charging pressure from the engine rotational speed and the angle of aperture of the throttle valve. This setpoint value for the charging pressure, however, has nothing to do with the limiting value for the integral component of the integral controller. Moreover, the setpoint value for determining the system deviation already differs in terms of dimension from the limiting value for limiting the integral component of the integral controller in the subject matter of the “Unland” reference.

Thus, the output of characteristics map 126 is a charging pressure, while the limiting value for the integral component is a pulse duty factor. The limiting of the integral controller 134 in the subject matter of the “Unland” reference occurs with the aid of limiter stage 140, which either accesses the output of the read only memory 144 as a static limiting value IMaxS or the output of block 146 as a dynamic limiting value IMaxD. In this connection, the dynamic limiting IMaxD is corrected as a function of operating parameters of the internal combustion engine. The internal wiring of block 146 is shown in Figure 2.

For this reason, contrary to the assertions of the Final Office Action, to assess the patentability of claim 1, one must consider Figure 2 and the associated text of the “Unland” reference, but not the characteristics map 126 according to Figure 1 of the “Unland”

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reference. It is therefore respectfully submitted that claim 1 is not identically disclosed (or even suggested by the “Unland” reference, and is therefore allowable.

In short, claim 1 is to a method for regulating a supercharge of an internal combustion engine, including: generating a manipulated variable from a deviation between a setpoint value of an operating parameter of the internal combustion engine and an actual value of the operating parameter, the manipulated variable having at least one integral component supplied by an integral action controller; specifying at least one limit value for the integral component, the at least one limit value being determined from a plurality of operating parameters of the internal combustion engine; and *adapting the at least one limit value by adaptively determining a first operating parameter of the plurality of operating parameters as a function of a second operating parameter.*

In particular, with the subject matter of claim 1, *the limit value is adapted by adaptively determining a first operating parameter* (which is used for ascertaining or determining the limit value) *as a function of a second operating parameter.* This means that for the adaptation of the limit value one of the operating parameters would be adapted as a function of an additional operating parameter and then accordingly supplied to a characteristics map to ascertain or determine the correction value or the adaptation value for the limit value of the integral-action component of the controller.

As explained above, as to the “Unland” reference, however, an adaptation of the input values (TL, H, n of the characteristics maps (210, 218), as to Figure 2 of the “Unland” reference) is simply not identically described (nor suggested) by that reference.

Also, the adaptation of the limit value by adapting a first operating parameter (of the ones used for the ascertaining of the limit value) as a function of a second operating parameter has the advantage that the adaptation of the limit value is shifted from the level of the manipulated variable (such as the on/off ratio, for example) to the level of the first operating parameter that is used for ascertaining the limit value. This means that the separate adaptation offset for the limit value of the integral-action component (as in “Unland” by the logic element (214) in Figure 2) may be omitted.

For the foregoing reasons, the “Unland” reference does not identically describe (or even suggest) all of the features of claim 1 (including the “adaptively determining” feature as

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provided for in the context of claim 1 as explained above) so that it does not anticipate claim 1.

Claims 2 and 10 depend from claim 1, and are therefore allowable for the same reasons as claim 1.

It is therefore respectfully submitted that claims 1 to 16 are allowable.

Conclusion

It is therefore respectfully submitted that all of claims 1 to 16 are allowable. It is therefore respectfully requested that the objections and rejections be withdrawn, since all issues raised have been addressed and obviated. An early and favorable action on the merits is therefore respectfully requested.

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